

CIF v3.9

Universal Structured Inference Framework

Core Framework — Autonomous Execution Edition

Convergent Inference Framework Ecosystem

Domain Modules: Genealogy v1.2 | Historical Research v1.2

April 2026

Version	CIF v3.9 — Autonomous Execution Edition
Supersedes	CIF v3.8 — Investigative Orientation Edition
Amendment	Phase IX: Autonomous Execution Protocol added as governing operational mode
Date	April 2026
Status	Active
Companion MAIA	MAIA v2.2 — Dual-Mode Audit Edition

Change Note — v3.9

SOLE ADDITION IN v3.9: The Autonomous Execution Protocol (AEP) is added as the governing operational mode for document-fed deployments. All other content carries forward unchanged from CIF v3.8.

One structural addition relative to v3.8. CIF v3.9 introduces the Autonomous Execution Protocol — a self-sequencing operational mode in which the engine independently initiates and executes each phase after receiving the CIF Core Framework and applicable Domain Module documents as uploads, without requiring a separate activation prompt for each phase.

This addition addresses an operational dependency identified through sustained live deployment: the previous model required the analyst to manually trigger each phase via a prompt sequence. While this preserved granular oversight, it created friction that slowed deployment cycles and introduced inconsistency when prompt language varied between sessions. The AEP separates the compliance architecture — which remains unchanged — from the activation mechanism, allowing the engine to self-navigate phase sequencing while MAIA v2.2 provides post-run dual-mode audit coverage.

Addition	Description
Addition 1 — Phase IX: Autonomous Execution Protocol	The engine self-initiates and sequences all phases after document upload. No per-phase prompt required. MAIA v2.2 dual-mode audit (flag + pause and flag + auto-correct) provides post-run integrity verification.
Addition 2 — Document-Fed Activation Model	CIF v3.9 is activated by uploading the Core Framework and applicable Domain Module documents directly to the engine. The engine reads both documents before Phase 0a opens and treats them as its governing instruction set for the full deployment.
Addition 3 — MAIA v2.2 Dual-Mode Audit Integration	MAIA v2.2 is the mandatory companion audit protocol for all CIF v3.9 deployments. It flags and pauses for analyst review on structural compliance failures, and flags and auto-corrects on resolvable rhetorical or formatting issues — preserving analyst authority where analytical judgment is required.

EMPIRICAL BASIS: Sustained multi-engine deployment under CIF v3.7.1 and v3.8 established that per-phase prompt triggering introduced variability across sessions when prompt language was not standardised. The AEP formalises what the best-performing deployment sessions already did implicitly: the engine reads the framework and proceeds through phases sequentially without waiting for manual cues, while the analyst retains authority at review checkpoints governed by MAIA v2.2.

Phase IX — Autonomous Execution Protocol (v3.9 Addition)

NEW v3.9

The Autonomous Execution Protocol is the sole addition to CIF in this version. It is the governing operational mode for all document-fed CIF v3.9 deployments.

Definition

The Autonomous Execution Protocol (AEP) is the operational mode in which a CIF v3.9-compliant engine self-initiates and sequentially executes all deployment phases — Phase 0a through Phase VIII, including all module-triggered compliance gates — after receiving the CIF v3.9 Core Framework and applicable Domain Module documents as uploads. No per-phase activation prompt is required. The engine reads the uploaded documents, identifies the research question, and proceeds through all phases in sequence, producing the full phase output including the Investigative Orientation Statement before closing the deployment.

Document-Fed Activation Model

CIF v3.9 deployments are activated by document upload, not by prompt sequence. The analyst uploads two documents to the engine:

- CIF v3.9 Core Framework (this document)
- The applicable Domain Module (Genealogy v1.2, Historical Research v1.2, or other active module)

The engine reads both documents in full before Phase 0a opens. The uploaded documents constitute the engine's complete governing instruction set for the deployment. No additional activation language is required. The analyst states the research question and the deployment begins.

COMPLIANCE RULE

A CIF v3.9 deployment that requires per-phase prompt triggers to advance through phases is operating in legacy mode. Legacy mode is not non-compliant, but it does not satisfy the Autonomous Execution Protocol. MAIA v2.2 post-run audit applies to all deployments regardless of activation mode.

Phase Sequencing Under AEP

Under the Autonomous Execution Protocol, the engine executes phases in the following sequence without pausing for analyst input between phases:

Phase	Function	AEP Behaviour
Phase 0a	Module Declaration	Engine declares active module and compliance gates. Self-initiates immediately after research question is stated.

Phase	Function	AEP Behaviour
Phase 0b	Hypothesis Listing	Engine generates minimum hypothesis set per module requirements. Advances without analyst prompt.
Phase I	Evidence Discipline	Engine registers and classifies all evidence items. Advance blocked only by missing Scope Declaration.
Phase II	Convergence Mapping	Engine executes Source Lineage Verification and maps clusters. Advances without analyst prompt.
Phase III	Competing Model Construction	Engine constructs or retires all Phase 0b hypotheses. Module gates execute automatically when triggered.
Phase IV	Verification Transparency	Engine executes stream proportion disclosure and Unverified Subtraction Test.
Phase V	Meta-Integrity Audit	Engine executes all six audit categories including Assessment Suppression Q1-Q4.
Phase VI	Adversarial Stress Test	Engine executes all five stress tests per model.
Phase VII	Confidence Tier Assignment	Engine assigns tiers with Pre-Assignment Clearance. Suppression Sensitivity Flag carries forward if triggered.
Phase VIII	Governing Conclusion + IOS	Engine produces Structural Density Review, Governing Conclusion, Post-Run Research Priorities, and Investigative Orientation Statement. Deployment closes.

MAIA v2.2 Dual-Mode Audit Integration

All CIF v3.9 deployments — whether executed under AEP or legacy mode — are subject to post-run audit by MAIA v2.2. MAIA v2.2 operates in two concurrent audit modes:

Mode	Trigger	Action
Flag and Pause	Structural compliance failures requiring analyst judgment: Phase 0b hypothesis registration gaps, Model Registration Obligation breaches, Category 6 Assessment Suppression failures, Structural Density Feedback Triggers, Type 4 Verdict Divergences	MAIA flags the failure, suspends verdict assembly, and holds for analyst review and explicit resolution before the Structured Verdict Document is completed.
Flag and Auto-Correct	Resolvable rhetorical or formatting issues: IOS non-compliant language,	MAIA flags the issue, applies a documented correction, and continues audit without

Mode	Trigger	Action
	confidence tier vocabulary in non-tier fields, minor formatting inconsistencies in phase outputs	requiring analyst input. Correction is logged in the V-9 Flags Summary.

GOVERNANCE PRINCIPLE	<i>The Flag and Pause mode preserves analyst authority at every decision point where analytical judgment — not formatting correction — is required. Full automation of compliance resolution would reproduce the failure mode CIF was designed to correct. The human analyst is the compliance enforcement mechanism. MAIA v2.2 is the detection and triage layer.</i>
-----------------------------	--

AEP Governing Constraints

The following constraints govern all AEP deployments in addition to the standard governing constraints listed below:

- The engine may not combine or skip phases under AEP. Each phase produces a discrete output before the next phase opens.
- The engine may not introduce evidence after Phase I closes, even if document content not addressed in Phase I is identified during later phases.
- The engine must produce all compliance gate outputs — Rule 6, Migration Gap Risk Declaration, Phase II Source Lineage Verification documentation — even when executing autonomously.
- The engine must not advance past Phase VII before Phase VIII Structural Density Review is complete and all SD Feedback Triggers are cleared.
- A deployment that reaches Phase VIII without producing an Investigative Orientation Statement is non-compliant under both CIF v3.9 and MAIA v2.2.

Phase 0 — Module Declaration and Hypothesis Registration

Phase 0a — Module Declaration

Unchanged from v3.8. Required content:

- Active domain module — name and version
- Research question domain classification
- Module-triggered compliance gates active in this deployment
- Reference attachments in scope
- Known domain-specific gaps anticipated at the outset

COMPLIANCE RULE

Phase 0b may not open until Phase 0a is complete.

Phase 0b — Hypothesis Listing

Unchanged from v3.8. Before Phase I opens, the analyst must enumerate all competing explanations the research question could support. Required content:

- A minimum of two competing explanations, stated in plain language
- At least one explanation that challenges or contradicts the research question's implied preferred answer
- A Structural Indeterminacy hypothesis — always required
- Each hypothesis assigned a reference code (H-A, H-B, H-C...) for tracking through Phase III

COMPLIANCE RULE — MODEL REGISTRATION OBLIGATION

Every hypothesis listed in Phase 0b must either be formally constructed as a competing model in Phase III or formally retired with documented justification before Phase III closes. Retirement requires: (1) the specific hypothesis code, (2) the evidence item or logical basis for retirement, and (3) confirmation that the retirement is not driven by hypothesis implausibility alone.

Phase I — Evidence Discipline

Unchanged from v3.8. Key requirements:

- Atomic Evidence Rule — one discrete claim per item, no embedded interpretation
- Universal evidence streams — stream assignment fixed at registration
- Provenance tags required for all items
- Absence Calibration Rule — negative evidence requires archive completeness assessment
- Evidence Registration Scope Declaration required before Phase II opens

Secondary Source Tier Classification

Designation	Definition
Confirmed	Primary source verified, repository cited.
Provisionally Confirmed	S1 archival transcription with intact citation chain. Sufficient to support downstream inference unless contradicted by primary verification.
Registered	S2 compiled secondary with cited methodology and convergence from at least one additional independent source.
Conditional	S3 aggregated or uncited source, or single source without corroboration. Flags for verification before use in any inferential bridge.
Unverified	Present in record but unevaluated. No source assessment completed.

Phase II — Convergence Mapping

Unchanged from v3.8. Source Lineage Verification must be completed before any convergence classification is assigned.

Source Lineage Verification — Mandatory Pre-Classification Step

- Step 1 — Identify the earliest known source for each item in the cluster
- Step 2 — Determine whether any later items cite, depend on, or were derived from that source
- Step 3 — Collapse all derivative items into a single stream entry traceable to the originating record
- Step 4 — Document the lineage finding

Classification	Definition	Independence Level
Evidence-driven	Items from genuinely distinct sources confirmed by Source Lineage Verification	Moderate to High
Assumption-driven	Items sharing a common underlying assumption whose failure damages the cluster simultaneously	Low
Architecture-driven	Items sharing structural, source, training data, or upstream record provenance	Very Low

Phase III — Competing Model Construction

Unchanged from v3.8. Each Phase 0b hypothesis must be formally constructed as a model or formally retired before Phase III closes. Model requirements: Core Claim, Explicit Assumptions, Supporting Evidence, Identified Vulnerabilities, Reversal Conditions. Execute Rule 4

(Parsimonious Synthesis Check) and Rule 5 (Assumption Audit). Execute all module-triggered compliance gates.

Phases IV through VII — Unchanged from v3.8

Phase	Function	Key Compliance Rule
IV — Verification Transparency	Disclose evidence stream proportions per model; execute Unverified Subtraction Test	Document stream proportions honestly
V — Meta-Integrity Audit	Six-category audit including Assessment Suppression Q1-Q4	Both Category 1 and Category 6 cleared; all four Q1-Q4 answered affirmatively
VI — Adversarial Stress Test	Five stress tests per model using post-audit evidence register	ST-1 through ST-5 executed for every model
VII — Confidence Tier Assignment	Assign tier per model with Pre-Assignment Clearance	Inflation and suppression cleared; Suppression Sensitivity Flag attached if Q3 triggered

Phase VIII — Structural Density Review and Governing Conclusion

Structural Density Review — Unchanged from v3.8

Execute four checks per model:

- SD-A — causal steps vs independent evidence anchors — flag if steps exceed anchors by more than 2:1
- SD-B — over-compression — flag if complex chains collapsed into single items
- SD-C — cross-stream dependency — flag if more than 50% of items across any two streams share common source
- SD-D — convergence appearance vs verification base — flag if gap exceeds one independence level

**SD
FEEDBACK
TRIGGER**

Two or more failures per model suspends governing conclusion pending documented Phase VII review. Governing conclusion may not be issued until all triggers cleared.

Governing Conclusion — Unchanged from v3.8

Order	Component	Description
1	Formal Governing Conclusion	The most defensible position the full evidence base supports after SD Trigger clearance. States what is established, what remains unresolved, and what specific investigations would resolve the open questions. Assigns the governing confidence designation. Closes with the framework reminder: CIF does not determine truth. It governs how claims are evaluated under uncertainty.
2	Post-Run Research Priorities	Ranked list of priority investigations by model impact.
3	Investigative Orientation Statement	Mandatory non-tiered narrative paragraph stating where the cumulative pattern of independent signals points and what the highest-priority investigative direction is. Explicitly not a confidence tier assignment. See Phase VIII IOS Specification in CIF v3.8 (carried forward).

Governing Constraints — v3.9 Update

Active throughout all phases in every deployment. New addition from v3.9 marked NEW:

- Phase 0a Module Declaration completed before Phase 0b opens
- Phase 0b Hypothesis Listing completed before Phase I opens — minimum two hypotheses plus SI
- Every Phase 0b hypothesis formally constructed as a model or formally retired with documented justification before Phase III closes
- Hypothesis retirement requires confirmed primary record contradiction — implausibility alone does not qualify
- Source Lineage Verification completed and documented for every convergence cluster before classification is assigned in Phase II
- Evidence-driven classification may not be assigned without confirmed Source Lineage Verification
- No evidence introduced after Phase I closes
- No conclusions drawn before Phase VII
- No model advocated at any phase
- All inferential bridges registered explicitly and separately from evidence items
- Negative evidence carries weight only where Absence Calibration Rule conditions are satisfied
- Phase I Scope Declaration required before Phase II opens
- Phase II independence ratings carry forward to Phase VII unless formally reclassified in Phase V
- Both Probability Inflation (Category 1) and Assessment Suppression (Category 6) cleared before any tier is considered final
- Category 6 clearance requires all four Assessment Suppression diagnostic questions answered affirmatively
- A Suppression Sensitivity Flag raised at Q3 must be carried into the Phase VII tier statement and the Phase VIII SD review
- Countermodel collapse opens toward Structural Indeterminacy — does not transfer evidential weight
- Phase VII tiers provisional until Phase VIII SD Feedback Trigger clearance confirmed
- Cross-engine convergence assessed for provenance independence before treated as robust
- All module-triggered compliance gates executed before the relevant phase closes
- An Investigative Orientation Statement must be produced at the close of every deployment, after the governing conclusion and post-run research priorities. The IOS must explicitly state it is not a confidence tier assignment and must not use confidence tier language. (v3.8 — carried forward)

NEW v3.9

NEW — v3.9: Under the Autonomous Execution Protocol, the engine self-initiates and sequences all phases after document upload. No per-phase activation prompt is required or permitted as a compliance gate. MAIA v2.2 dual-mode audit (flag + pause for analytical failures; flag + auto-correct for resolvable rhetorical or formatting issues) is the mandatory post-run integrity verification layer for all CIF v3.9 deployments.

CIF does not determine truth. It governs how claims are evaluated under uncertainty.

Version History

Version	Edition Name	Key Addition
v3.2	Qualitative Governance Edition	Phase I Scope Declaration; Phase VIII SD Feedback Trigger; Cross-engine provenance warning
v3.3	Parsimonious Model Completeness Edition	Phase III Rule 4: Synthesis Model Obligation; Rule 5: Assumption Audit Before Closure
v3.4	Patrilineal Continuity Edition	Phase III Rule 6: Patrilineal Continuity Risk Declaration (moved to Genealogy Module in v3.5)
v3.5	Modular Architecture Edition	Phase 0: Module Declaration; Genealogy Module v1.0; Historical Research Module v1.0
v3.6	Hypothesis Registration Edition	Phase 0b: Hypothesis Listing; Model Registration Obligation; Phase II Source Lineage Verification; Numerical Scoring Rejection Statement
v3.7	Secondary Source Tier Edition	Phase I: Secondary Source Tier Classification; Unified Five-Level Confidence Scale
v3.7.1	Assessment Suppression Diagnostic Edition	Phase V: Four explicit Category 6 Assessment Suppression diagnostic questions
v3.8	Investigative Orientation Edition	Phase VIII: Investigative Orientation Statement — mandatory non-tiered directional reading after governing conclusion
v3.9	Autonomous Execution Edition	Phase IX: Autonomous Execution Protocol; Document-Fed Activation Model; MAIA v2.2 Dual-Mode Audit Integration (flag + pause / flag + auto-correct)